What is Claimed is:

1. A bonding structure with a buffer layer, comprising:

a first substrate;

a plurality of metal pads on a surface of said first substrate;

a protection layer covering on said surface of said first substrate;

a first adhesive metal layer being formed on said plural of metal pads;

a buffer layer being coated on said protection layer and said plural of metal pads;

a first metal layer covering said buffer layer;

a second substrate having a plurality of electrodes thereon; and

a bonding layer, said bonding layer and said plural of electrodes being independently distributed on said second substrate;

wherein said first metal layer, said plural of electrodes and said bonding layer are bonded directly to complete said bonding structure.

2. The bonding structure as claimed in claim 1, wherein said bonding is direct bonding.

3. The bonding structure as claimed in claim 1, wherein said electrodes on said second substrate are respectively aligned to said plurality of metal pads on said surface of said first substrate.

4. The bonding structure as claimed in claim 1, wherein said buffer layer coated on said plurality of metal pads and said buffer layer on said protection layer are independently distributed.

5. The bonding structure as claimed in claim 1, wherein said buffer layer coated on said plurality of metal pads and said buffer layer on said protection layer are connected.

6. The bonding structure as claimed in claim 1, wherein said first substrate is a silicone substrate.

7. The bonding structure as claimed in claim 1, wherein said second substrate is one of glass substrate, polymer substrate, silicone substrate or ceramic substrate.

8. The bonding structure as claimed in claim 1, wherein the material for said first metal layer is chosen from one of gold, aluminum or copper.

9. The bonding structure as claimed in claim 1, wherein the material for said buffer layer is polymer.

10. The bonding structure as claimed in claim 1, wherein under-fill is further applied between said first substrate and said second substrate to increase the reliability of said bonding structure.

11. The bonding structure as claimed in claim 1, wherein the buffer layer on said first adhesive metal layer and on said metal pads is separated, said first metal layer directly covers on and around said separated buffer layer and on said first adhesive metal layer located between said separated buffer layer.

12. The bonding structure as claimed in claim 1, wherein said first metal layer directly covers on and around said buffer layer, and contacts with said first adhesive metal layer.

13. The bonding structure as claimed in claim 1, wherein the buffer layer on said first adhesive metal layer and on said metal pads is separated, an electroplating metal is

electroplated to fill the hollow made by said separated buffer layer, said first metal layer directly covers on said electroplating metal and on and around said buffer layer, and contacts with said first adhesive metal layer.

14. The bonding structure as claimed in claim 3, wherein a second metal layer is formed on said bonding layer located on said second substrate.

15. The bonding structure as claimed in claim 3, wherein a second metal layer is formed on said plurality of electrodes and on said bonding layer located on said second substrate.

16. The bonding structure as claimed in claim 4, wherein a second metal layer is formed on said bonding layer located on said second substrate.

17. The bonding structure as claimed in claim 4, wherein a second metal layer is formed on said plural of electrodes and on said bonding layer located on said second substrate.

18. The bonding structure as claimed in claim 11, wherein an adhesive layer is formed between said first metal layer and said buffer layer.

19. The bonding structure as claimed in claim 12, wherein an adhesive layer is formed between said first metal layer and said buffer layer.

20. The bonding structure as claimed in claim 13, wherein an adhesive layer is formed between said first metal layer and said buffer layer.

21. A bonding method for a bonding structure with a buffer layer, comprises the steps of:

(a) forming said bonding structure with a buffer layer, including providing a first substrate with metal pads thereon, covering a protection layer, forming a first adhesive metal layer, coating a buffer layer, covering a first metal layer, providing

a second substrate with electrodes and an independently distributed bonding layer thereon; and

(b) bonding together the surface of said first metal layer of said bonding structure, said bonding layer on said second substrate and the surface of said metal pads.

22. The bonding method as claimed in claim 21, wherein the bonding method of said step (b) is direct bonding.

23. The bonding method as claimed in claim 22, wherein said direct bonding is performed through surface activation.

24. The bonding method as claimed in claim 22, wherein said direct bonding is performed through surface activation plus heat pressure.

25. The bonding method as claimed in claim 22, wherein said direct bonding is performed through heat pressure directly.

26. The bonding method as claimed in claim 23, wherein said surface activation is done by bombarding using physical property of plasma to remove particles and oxide contaminants on the surfaces of said first metal layer, said bonding layer and said electrodes.

27. The bonding method as claimed in claim 23, wherein said surface activation is done by exposing to ultraviolet ray to remove particles and oxide contaminants on the surfaces of said first metal layer, said bonding layer and said electrodes.

28. The bonding method as claimed in claim 23, wherein said surface activation is done by cleaning with chemical compound to remove particles and oxide contaminants on the surfaces of said first metal layer, said bonding layer and said electrodes.

29. The bonding method as claimed in claim 21, wherein under-fill is further applied between said first substrate and said second substrate to increase the reliability of said bonding structure in said step (b).